

AMENDMENTS TO THE CLAIMS

The following listing of claims replaces all prior versions and listings of claims.

Listing of Claims:

1. (original) A fuel cell system comprising:
 - a fluidization apparatus having therein metal particles and electrolyte;
 - an electrochemical cell stack in fluid communication with the fluidization apparatus, the stack comprising an anode and a cathode;
 - a fuel delivery pump; and
 - a fluidization pump, wherein the fluidization pump provides a stream comprising electrolyte to the fluidization apparatus at an orientation suitable for fluidizing at least a portion of the metal particles in the fluidization apparatus, and wherein a portion of the fluidized metal particles and electrolyte can be delivered to the anode of the electrochemical cell stack by the fuel delivery pump.
2. (currently amended) The fuel cell system of claim 1 wherein the ~~container~~ fluidization apparatus further comprises a fluidization jet connected to the fluidization pump for introducing the electrolyte stream into the ~~container~~ fluidization apparatus.
3. (original) The fuel cell system of claim 2 wherein the fluidization jet is oriented in an upward direction.
4. (original) The fuel cell system of claim 1 wherein the fluidization apparatus further comprises a spout tube having a first end and a second end, wherein the first end is positioned such that at least a portion of the fluidized metal particles enter the first end.

5. (currently amended) The fuel cell system of claim 4 wherein the fluidization apparatus further comprises a baffle positioned adjacent the second end of the spout tube for redirecting a portion of the fluidized ~~fuel~~ metal particles exiting the second end of the spout tube.
6. (currently amended) The fuel cell system of claim 5 wherein the fluidization apparatus further comprises a feed tube that passes through a surface of the ~~container~~ fluidization apparatus ~~such that~~ providing a flow pathway for the fluidized metal particles and electrolyte out of the ~~container~~ fluidization apparatus ~~is established~~.
7. (original) The fuel cell system of claim 6 wherein the feed tube is positioned adjacent the second end of the spout tube.
8. (original) The fuel cell system of claim 7 wherein the feed tube further comprises a feed hole which provides access to the interior of the feed tube.
9. (original) The fuel cell system of claim 6 wherein the fuel delivery pump is connected to the feed tube to facilitate the flow of the fluidized metal particles into the feed tube.
10. (original) The fuel cell system of claim 1 wherein the metal particles comprise zinc, an alloy of zinc or a combination thereof.
- 11-33. (canceled)

34. (new) The fuel cell system of claim 6 further comprising a splitter element connected to the feed tube, the splitter element having a plurality of openings allowing fluidized metal particles and electrolyte to flow into the feed tube through multiple flow paths.
35. (new) The fuel cell system of claim 34 wherein the plurality of openings comprises a grating.
36. (new) The fuel cell system of claim 34 wherein the splitter element comprises a surface perforated by the plurality of openings.
37. (new) The fuel cell system of claim 36 further comprising a plurality of suction tubes, each suction tube connected to one of the openings and leading to the feed tube.
38. (new) The fuel cell system of claim 6 wherein the feed tube further comprises a redirection tube and a fluidization tube, the redirection tube directing the fluidized metal particles from the fluidization apparatus into the fluidization tube.
39. (new) The fuel cell system of claim 38 wherein the fluidization tube has an inner diameter greater than an inner diameter of the redirection tube.
40. (new) The fuel cell system of claim 2 wherein the fluidization apparatus further comprises sloped interior walls directing the metal particles by gravity toward the electrolyte stream of the fluidization jet.
41. (new) A fuel cell system comprising:

a fluidization apparatus containing an electrolyte solution and having a fuel inlet for receiving metal particles;

an electrochemical cell stack in fluid communication with the fluidization apparatus;

a fluidization pump circulating the electrolyte solution through the fluidization apparatus to fluidize at least a portion of the metal particles; and

a fuel delivery pump for supplying the fluidized metal particles to the electrochemical cell stack.

42. (new) The fuel cell system of claim 41 further comprising a fluidization jet connected to the fluidization pump for jetting the electrolyte solution into the fluidization apparatus.

43. (new) The fuel cell system of claim 42 wherein the fluidization apparatus further comprises sloped interior walls directing the metal particles by gravity toward the fluidization jet.

44. (new) The fuel cell system of claim 43 further comprising a spout tube having a first and second end, the first end positioned to receive at least a portion of the fluidized metal particles.

45. (new) The fuel cell system of claim 44 further comprising a baffle redirecting at least a portion of the fluidized metal particles exiting the second end of the spout tube.

46. (new) The fuel cell system of claim 45 further comprising a feed tube connected to the fuel delivery pump, the feed tube having an opening disposed within the fluidization apparatus for collecting a portion of the fluidized metal particles.

47. (new) The fuel cell system of claim 46 further comprising a splitter element connected to the feed tube, the splitter element having a plurality of openings allowing fluidized metal particles and electrolyte to flow into the feed tube through multiple flow paths.

48. (new) The fuel cell system of claim 47 wherein the splitter element comprises a surface perforated by the plurality of openings.

49. (new) The fuel cell system of claim 48 further comprising a plurality of suction tubes, each suction tube connected to one of the openings and leading to the feed tube.

50. (new) The fuel cell system of claim 49 wherein the feed tube further comprises a redirection tube and a fluidization tube, the redirection tube directing fluidized metal particles from the fluidization apparatus into the fluidization tube.

51. (new) The fuel cell system of claim 50 wherein the fluidization tube has an inner diameter greater than an inner diameter of the redirection tube.